

In the Drawings:

Please amend Figure 2E as shown in the enclosures. A clean copy of amended Figure 2E (labeled as a “Replacement Sheet”) and a marked-up copy of Figure 2E (labeled as an “Annotated Sheet”) showing the amendments in red are attached hereto.

REMARKS

The applicant has carefully considered the Office action dated May 4, 2005 and the references it cites. By way of this Response, claims 1, 3 and 4 have been amended and claim 7 has been cancelled without prejudice to its further prosecution. In view of the following, it is respectfully submitted that all pending claims are in condition for allowance and favorable reconsideration is respectfully requested.

Turning first to the objections to the drawings, Fig. 2E has been amended to overcome the Examiner's objections. No new matter has been added. For example, the un-numbered layer erroneously included beneath the source/drain in FIG. 2E as filed, has been deleted for conformity with the prior figures and the written description. In addition, layer 3 from FIG. 2D has been added into FIG. 2E for conformity with FIGS. 2A-2D and the accompanying written description. Further, the shading of the source/drain regions has been corrected in FIG. 2E to match the shading in FIG. 2D.

With respect to the objection to the drawings for not illustrating an example of the phrase "etching a portion of the semiconductor substrate" which originally appeared in claim 1, that erroneous phrase has been removed from claim 1.

In view of the foregoing, it is respectfully submitted that the objections to the drawings should be withdrawn.

Turning to the objections to the specification, the specification and claims have been amended to address the noted objections. For example, the last two lines of claim 1 have been amended to remove the confusion noted in the Office action. With respect to claim 2, the specification has been amended

to recite the STI (the recitations of original claim 2 form part of the original specification and, thus, can be added in to the detailed description without introducing new matter). Claim 3 has been amended for conformity with the specification. Claim 7 has been cancelled. Further, the inconsistent references to layers 8 and 10 have been corrected in the specification. In view of the foregoing, it is respectfully submitted that the objections to the specification should be withdrawn.

Further, the amendments to claims 1 and 3 overcome the 35 U.S.C. § 112, first paragraph, rejections.

As a final initial matter, the cancellation of claim 7 renders the 35 U.S.C. § 112, second paragraph, rejection moot.

Turning to the art rejections, the Office action rejected all pending claims as being unpatentable over one or more of Krivokapic, US Patent 5,879,998, Chau et al., US Patent 6,165,826, Wolf et al. (“Silicon Processing for the VLSI Era”), Cheng, US Patent 6,872,626, Shimizu et al., US Patent 6,066,881, and/or Kwak et al., US Patent 6,852,559. For the following reasons, the applicant respectfully traverses these rejections.

Cheng, US Patent 6,872,626 is not prior art to the present application. The U.S. filing date of Cheng is November 21, 2003, which is after the December 20, 2002 priority date of the present application. Therefore, the rejection based on Cheng are improper and must be withdrawn.

The rejection of based on Kwak et al., US Patent 6,852,559 are similarly in error. Kwak et al. is not prior art to the present application. The U.S. filing date of Kwak et al. is June 30, 2003, which is after the December 20, 2002 priority date of the present application. (The Office is respectfully

reminded that the foreign priority date of Kwak cannon be used as the 35 U.S.C. § 102(e) reference date. See MPEP §2136.03). Therefore, the rejections based on Kwak et al. are in error and must be withdrawn.

In view of the foregoing, the only remaining rejections are those based on Krivokapic, US Patent 5,879,998. However, the rejections based on Krivokapic are in error. For example, claim 1 recites a method for fabricating a semiconductor device comprising, among other things, performing an epitaxial growth to thereby form the source and the drain. In contrast, in Krivokapic, a source 245 and a drain 250 are formed by doping the substrate 60 with ions. (See Krivokapic, Col. 6, lines 45-47). There is no teaching or suggestion of performing an epitaxial growth to form the source and the drain in Krivokapic. Therefore, the 35 U.S.C. § 102 rejections based on Krivokapic are in error and must be withdrawn.

Further, claim 1 recites etching portions of the first oxide layer where the source and the drain are to be formed and thereafter performing an epitaxial growth to thereby form the source and the drain. In contrast, the source and the drain of Krivokapic are formed by doping the substrate 60. Accordingly, Krivokapic does not teach or suggest the method recited in claim 1.

Further, the etching of the portions of the first oxide layer is recited in claim 1 as a two stage process in which all of the first oxide layer is removed from the regions where the source and drain are to be formed. Specifically, claim 1 recites:

using a source/drain mask, etching a first portion of the first oxide layer such that a second portion of the first oxide layer having a

predetermined thickness remains where a source and a drain are to be formed; [and]

removing the second portion of the first oxide layer where the source and the drain are to be formed and performing an epitaxial growth on the portions where the source and the drain are to be formed to thereby form the source and the drain.

In contrast, whereas Krivokapic etches a first portion of an oxide layer 152 to leave a second portion of the oxide layer 153 in the source/drain regions, the second portion of the oxide layer 153 is *never* removed from the source/drain regions (see FIGS. 6-9). Accordingly, Krivokapic cannot fairly be said to teach or suggest the method of claim 1.

Further, none of the art of record provides a suggestion for modifying Krivokapic to meet the recitations of claim 1. In view of the foregoing, it is respectfully submitted that claim 1, and all claims depending therefrom, should be allowed over the art of record.

Before closing, the applicant notes that at least the following amendments are either broadening or clarifying and, thus, not necessary for patentability:

1. The addition of the phrase “a portion of” to the “forming a trench” clause of claim 1;
2. The replacement of the word “growth” with the word “layer” in claim 1;
3. The deletion of the phrase “depositing a second nitride layer on the source and the drain” from claim 1;
4. The deletion of the phrase “and planarizing” from claim 1;

5. The replacement of the term "second" with the term "third" in claim 1;
6. The replacement of the term "isolation" with the term "insulation" in claim 1; and
7. all of the changes to dependent claims 3 and 4.

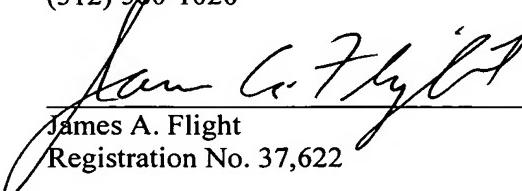
The above noted amendments are either broadening, or are merely clarifying in that the amended claims are intended to state the same thing as the claim prior to amendment (i.e., to have the same scope both before and after the amendments) in a more easily understood fashion. Consequently, these broadening or clarifying amendments do not give rise to prosecution history estoppel or limit the scope of equivalents of the claims under the doctrine of equivalents.

If the Examiner is of the opinion that a telephone conference would expedite the prosecution of this case, the Examiner is invited to contact the undersigned at the number identified below.

Respectfully submitted,

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"Methods for Manufacturing Semiconductor Devices"

FIGS. 2D-2E

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ANNOTATED DRAWINGS

FIG. 2D

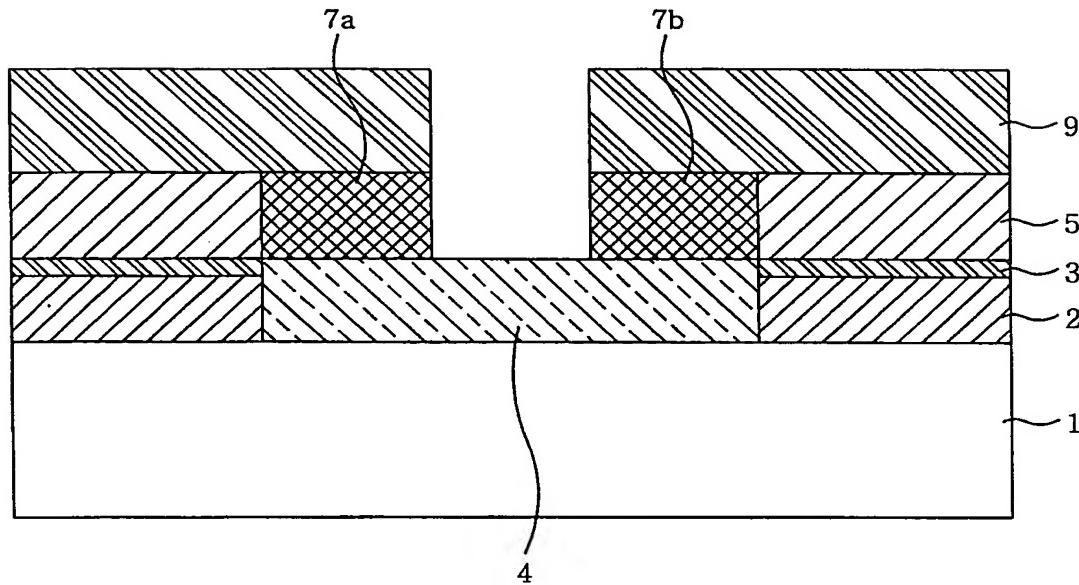


FIG. 2E

